

UNITED STATES ANIMAL HEALTH ASSOCIATION 2007

RESOLUTION NUMBER: 54 APPROVED

SOURCE: COMMITTEE ON TRANSMISSIBLE DISEASES OF
POULTRY AND OTHER AVIAN SPECIES

SUBJECT MATTER: MOVEMENT PROTOCOLS FOR EGGS, EGG
PRODUCTS, AND DAY-OLD CHICKS WITHIN, OUT
OF, AND INTO DISEASE CONTROL AREAS

DATES: RENO, NEVADA, OCTOBER 18 – 24, 2007

BACKGROUND INFORMATION:

In Highly Pathogenic Avian Influenza (HPAI) outbreaks, the United States Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), and Incident Commanders (IC) can quarantine any site, area, county and/or state after the Index Case has been determined. The National Response Plan (NRP) includes a 96 hour “no movement” moratorium for non-infected farms in a Control Area which creates a major concern for the egg industry. The egg industry in the United States (US) has developed their production for “just-in-time” basis. Farms are composed of numerous barns with up to six million birds on one site. Egg producing farms can handle eggs by “in line” processing (on site) or “off line” processing where eggs are delivered to a separate grading and/or breaking facility for further processing. Each day, eggs move from production sites to food service distributors, retail stores, and distribution centers of fast-food restaurants and grocery store chains. If an in-line egg production operation cannot move eggs, their fast-food restaurant customers will run out of eggs within 24 hours. Within 48 hours, eggs will disappear from shelves of large retail grocery store chains. In addition, customers nationwide will lose faith in the safety and security of our food supply.

Due to current table egg production methods and limitations on egg storage capacity (48 hours) a protocol has been developed whereby non-infected egg production premises can document on a daily basis the influenza-free status of their chickens, eggs and egg products. Daily documentation will provide assurance to the Incident Commander, State Veterinarian, APHIS, consumers, and customers of the safety of eggs and egg products moving into normal market channels.

Documentation that table egg flocks in a Control Area are free of avian influenza can be achieved by providing the Incident Commander critical information each day from each house at an egg production site, including mortality, water and feed consumption, and reverse transcriptase polymerase chain reaction (RT-PCR) test results. Testing tracheal swabs from a minimum of five chickens from daily mortality and/or euthanized sick birds from each house at a production site will detect a flock

prevalence rate of 10/100,000 or 0.01%. This level of testing would be seven times more rigorous than USDA's 2002-2003 exotic Newcastle disease (END) testing program in California. If a positive is found, the Incident Commander will immediately quarantine the farm.

In addition to daily surveillance, several standard operating procedures have been recommended to reduce the probability for introduction of avian influenza onto a premises. These procedures address potential problems such as manure movement, by-products, pullet movement, and spent hen movement.

Egg companies, the United Egg Association, the United Egg Producers, State Veterinarians, academia, and other regulatory individuals have reviewed and support the Egg Movement Protocol, SOP (Standard Operating Procedures) and testing procedures.

The HPAI Movement Control Model Plan from the Egg Industry is attached for reference.

Resolution:

The United States Animal Health Association (USAHA) resolves that the United States Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), Veterinary Services (VS) incorporate business continuity as part of the National Highly Pathogenic Avian Influenza (HPAI) Response Plans by including movement protocols within, out of, and into a Control Area as exemplified by the protocol developed by the United States Egg Industry.

RESPONSE:

USDA, APHIS, Veterinary Services

The U.S. Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), Veterinary Services recognizes the United States Animal Health Association's concerns and appreciates the opportunity to respond. APHIS values the U.S. egg industry's proactive involvement in emergency planning for HPAI. While our first priority is to protect all U.S. poultry, we certainly recognize the need for continuity of business planning. However, all movement restrictions during an HPAI incident must be based on sound science and epidemiology for producers located both inside and outside of quarantined areas. Upon initial review APHIS representatives were concerned that the proposed movement protocol needed additional consideration and refinement. On November 30, 2007, APHIS met with the egg industry to discuss the movement protocol in detail. The group developed several recommendations, including:

- Prioritizing and developing risk assessments for individual commodities listed in the proposal—liquid egg products, further processed egg products, inedible eggs, table eggs and broken shell eggs, hatching eggs, and day-old chicks;

- Modifying the movement protocol by dividing it into various protocols by commodity to provide States receiving the commodities sufficient animal health assurances, as different commodities may pose different levels of risk, as determined by scientific risk assessment; and
- Seeking input, approval, and adoption of “completed” movement control model plan(s) and risk assessment(s) by State Veterinarians, USDA Food Safety and Inspection Service, U.S. Food and Drug Administration, and Department of Homeland Security, including the development of memorandums of understanding (or other instruments) to confirm the commitment of all parties.

APHIS looks forward to working with the egg industry delegation in collaborating with Federal, State, and industry partners to advance the USAHA resolution.

May 14, 2007

**United Egg Producers/United Egg Association
Highly Pathogenic Avian Influenza Movement Control
Model Plan**

Movement Protocol for Liquid Egg Product, Further Processed Egg Products, Inedible Egg, Table Eggs and Broken Egg Shells, Egg-Type Hatching Eggs, and Day-Old Chicks Within, Out of, and Into a Control Area

1. **Flocks that are found to be infected with highly pathogenic avian influenza (HPAI).**
 - a. No movement of susceptible species or their products (e.g., shell eggs, hatching eggs, day old chicks, broken egg shells, unpasteurized liquid egg product, pasteurized egg products will be allowed off the premises, except for disposal and must be moved under permit.

2. **Flocks that are deemed to be “Contacts.”**
 - a. **Definition of contacts:** A contact premises is a premises with birds or other susceptible animals *or products* that have been exposed directly or indirectly to birds and other animals, products, materials, people, or aerosol from an infected premises (the specific exposure factors to be considered must be appropriate to the epidemiology of HPAI).
 - b. Layer industry HPAI at risk flocks include the following.
 - i. Premises with susceptible birds exposed to poultry **manure** from an infected flock (virus in manure)
 - ii. Premises with susceptible birds exposed to **dead poultry** from an infected flock (virus in carcasses, etc)
 - iii. Premises with susceptible birds exposed to **live poultry** from an infected flock (virus in bird & secretions & excretions)
 - iv. Premises with susceptible birds exposed to **eggs or egg handling materials** from an infected flock (HPAI virus in and on egg)
 - v. Premises with susceptible birds with **unprotected exposure to equipment** that has been in contact with infected birds, manure, carcasses, or eggs. Unprotected means inadequate sanitation procedures for those items/people who come into contact with an infected flock.
 - vi. Premises with susceptible birds with **unprotected exposure to people** that have been in contact with infected birds, manure, carcasses, or eggs.
 - vii. Premises involved in depopulation of infected flocks.
 - c. Minimal contact flocks that are unlikely to involve infected birds include the following.
 - i. Premises that are in close proximity to an infected flock but which do not fall into the at risk definition and show no unexplained increase in daily mortality.
 - ii. Locations who receive materials that come in contact with animals or manure but have taken precautions to protect against disease

- iii. Farm workers/visitors who contact animals but who take precautions between farms (e.g. boots, coveralls, hand washing, showers, etc)
 - iv. Farms receiving supplies that have been in contact with birds or manure but have been cleaned and disinfected prior to leaving the premises of origin.
 - v. Farms receiving equipment that that have been in contact with birds or manure but have been cleaned and disinfected prior to leaving the premises of origin.
 - d. Non-contact flocks include the following. Non-Animal contact functions (movement that does not involve contact with animals or manure)
 - 1. Feed delivery, supplies,
 - 2. Office workers/visitors who may travel to multiple sites
 - e. **Disposition of Contact Flocks.**
 - i. Contact premises will be quarantined and will be subject to strict biosecurity measures, daily monitoring of mortality in each house, and intensive surveillance for HPAI viruses in each house by RRT-PCR testing (see 3 immediately below) for at least 42 days or until the Incident Commander is convinced that no HPAI is present on the premises.
 - ii. Contact premises with 75,000 hens or more will not be depopulated until a diagnosis of HPAI has been confirmed by RRT-PCR or by virus isolation.
 - iii. Contact premises that prove to be infected will be depopulated immediately.
3. **Determination of non-infected layer industry flocks in the Control Area.**
- a. The absence of infection will be documented by requiring chickens from flocks that are not exhibiting signs of the disease and that show no unexpected increase in mortality from each house on the farm to be tested each day and found to be negative by the real time reverse transcriptase – polymerase chain reaction (RRT-PCR) or other suitable procedure as determined by the Incident Command.
 - i. A minimum of five chickens from the daily mortality and/or from euthanized sick birds from each house (flock) will be placed in a leak proof container (e.g. heavy duty plastic garbage bag) each morning. Each container will be labeled with the farm of origin, house of origin, and the number of birds found dead in the house that day. The containers will be taken to a designated pick-up point, typically the public road closest to the premises.
 - 1. Rationale: In a large commercial poultry house (100,000 layers) “normal” mortality will be about 10 per day. A doubling of normal mortality to 20 due to HPAI (dead bird prevalence of 50% and flock prevalence of 0.04%) would be detected by sampling 5 dead birds. Historically, APHIS sampled 5 dead birds **per week** to monitor chicken houses in the END outbreak in CA and this plan requires daily monitoring. The proposed AI plan requires daily monitoring and will be 7 times more effective than the monitoring during

the END outbreak. It is not unusual for mortality to fluctuate that much from day to day, so sampling dead/sick birds every day is likely more sensitive than monitoring weekly mortality (where a trend over 2 or 3 days might be observed before acting). It is reasonable to assume that 50% of the sick and dead birds (in a house that is infected with HPAI) would actually be shedding AI virus then a sample size of 5 birds would allow you to have 95% confidence of finding the virus in the sick or dead birds.

- ii. A state or federal regulatory official or an individual authorized by the Incident Command will take a tracheal swab from each chicken. Five tracheal swabs will be pooled in a tube containing brain-heart infusion (BHI) broth. Sample pooling will be done on a per house basis. One BHI tube containing tracheal samples (5 tracheal swabs/BHI tube) will be submitted as directed by the Incident Command to an authorized State Veterinary Diagnostic Laboratory (VDL). These samples must be submitted on the day of sample collection by the state or federal regulatory official or an individual authorized by the Incident Command. The State VDL and the IC will establish the time of day by which samples must be submitted to an authorized VDL (example, by 12:30 pm). VDL personnel will perform RRT-PCR testing on these samples immediately upon receipt and electronically send test results to the Incident Command (IC) by the end of each day. The IC will report the test result information to the premises as soon as it is available.

4. Movement of liquid egg product, further processed egg products, inedible egg, table eggs and broken eggshells, egg-type hatching eggs, and day-old chicks from non-infected flocks.

- a. Movement of liquid egg product, table eggs, egg-type hatching eggs, further processed egg products, and broken egg shells *within and out of* a Control Area will be allowed by permit for those flocks testing negative (see Section 3 above) as follows:
 - i. USDA FSIS inspected pasteurized egg products, or precooked egg products produced by plants within a control area may move within or out of the Control Area by Permit (accompanied by documentation of origin of the products). The cargo interior and exterior of the transport vehicle must be cleaned and disinfected. The driver will not be allowed outside the cab or else the cab interior must also be cleaned and disinfected. The tires and wheel wells must also be cleaned and disinfected before leaving the premises within the Control Area.
 - ii. Unpasteurized liquid egg product may move in officially FSIS sealed vehicles per 9 CFR Chapter III Part 590.410 from breaking operations within the Control Area directly to pasteurization plants located within or out of the Control Area by permit. The cargo interior and exterior of the transport vehicle must be cleaned and disinfected. The driver will not be allowed outside the cab or else the cab interior must also be cleaned and disinfected. The tires and wheel wells must also be cleaned and disinfected before leaving the premises within the Control Area.

- iii. Inedible egg from graders and/or breaking plants in a Control Area may move by permit for pasteurization or to approved waste disposal sites within or outside the Control Area. The cargo interior and exterior of the transport vehicle must be cleaned and disinfected. The driver will not be allowed outside the cab or else the cab interior must also be cleaned and disinfected. The tires and wheel wells must also be cleaned and disinfected before leaving the premises within the Control Area.
- iv. Washed and graded shell eggs destined for food service, retail marketing, further processing, or for breaking may be moved out of the Control Area by permit if they have been washed and sanitized using 100 – 200 ppm chlorine solution. The transport vehicle shall be sealed by farm or company personnel under the authorization of the Incident Command. Egg handling materials used in the transport of eggs to breaking or further processing plants must be destroyed at the plant or cleaned, sanitized (following accepted procedures) and returned to the premises of origin without contacting materials going to other premises. The cargo interior and exterior of the transport vehicle must be cleaned and disinfected. The driver will not be allowed outside the cab or else the cab interior must also be cleaned and disinfected. The tires and wheel wells must also be cleaned and disinfected before leaving the premises within the Control Area.
- v. Nest run shell eggs (not washed and sanitized) must be moved directly for washing and grading, further processing, or to an off-line breaking operation. The transport vehicle shall be sealed by farm or company personnel under the authorization of the Incident Command. Egg handling materials must be destroyed at the destination plant or cleaned, sanitized (following accepted procedures) and returned to the premise of origin without contacting materials going to other premises. The cargo interior and exterior of the transport vehicle must be cleaned and disinfected. The driver will not be allowed outside the cab or else the cab interior must also be cleaned and disinfected. The tires and wheel wells must also be cleaned and disinfected before leaving the premises within the Control Area.
- vi. Broken eggshells on the farm or from breaking plants, pasteurization plants, and/or further processing plants may be moved by permit. The transport vehicle shall be sealed by farm or company personnel under the authorization of the Incident Command. The cargo interior and exterior of the transport vehicle must be cleaned and disinfected. The driver will not be allowed outside the cab or else the cab interior must also be cleaned and disinfected. The tires and wheel wells must also be cleaned and disinfected before leaving the premises within the Control Area.
- vii. Hatching eggs from source flocks tested negative for AI virus by daily mortality sampling may be moved to hatcheries within the Control Area with a permit. Egg handling materials must be destroyed at the hatchery or cleaned, sanitized (following accepted procedures) and returned to the premise of origin without contacting materials going to other premises. The cargo interior and exterior of the transport vehicle must be cleaned

and disinfected. The driver will not be allowed outside the cab or else the cab interior must also be cleaned and disinfected. The tires and wheel wells must also be cleaned and disinfected before leaving the premises within the Control Area.

- viii. Hatching eggs from source flocks tested negative for AI virus by daily mortality sampling may be moved out of the Control Area by permit. The chicks must be placed under a “post-hatch” quarantine for 30 days. Egg handling materials must be destroyed at the premises of destination or cleaned, sanitized (following accepted procedures) and returned to the premise of origin without contacting materials going to other premises. The cargo interior and exterior of the transport vehicle must be cleaned and disinfected. The driver will not be allowed outside the cab or else the cab interior must also be cleaned and disinfected. The tires and wheel wells must also be cleaned and disinfected before leaving the premises within the Control Area. The State Veterinarian of the state of destination must be faxed a copy of the restricted movement permit within 24 hours of issuance.
 - ix. Day-old chicks from source flocks tested negative for AI virus by daily mortality sampling may be shipped by permit within or out of the Control Area and must be placed under a 30 day quarantine. The State Veterinarian of the State of destination must be faxed a copy of the restricted movement permit within 24 hours of issuance. Hatcheries may receive eggs that originate outside the Control Area (accompanied by documents showing the origin of the eggs and the AI negative status of the source flock) without a permit. The cargo interior and exterior of the transport vehicle must be cleaned and disinfected. The driver will not be allowed outside the cab or else the cab interior must also be cleaned and disinfected. The tires and wheel wells must also be cleaned and disinfected before leaving the premises within the Control Area.
 - x. The Incident Command or designate will evaluate and approve the risk assessment and risk mitigation procedures necessary to move products by permit. A permit must be issued and seals placed on the vehicle by a state or federal regulatory official or a person authorized by the Incident Command. The Incident Command will authorize procedures to break the seals outside of the control area with proper documentation.
- b.** Movement of liquid egg product, shell eggs, broken egg shells, and hatching eggs *into* a Control Area will be allowed without permit under the following conditions:
- i. Pasteurized liquid egg product and unpasteurized liquid egg (and blends) from breaking plants and/or pasteurization plants outside a Control Area (and accompanied by documentation of origin) may move into pasteurization and/or further processing plants located in a Control Area without permit. The driver will not be allowed outside the cab or else the cab interior must be cleaned and disinfected. The exterior of the transport vehicle and the tires and wheel wells must be cleaned and disinfected before leaving the premises in a Control Area.

- ii. Shell eggs may move into breaking, grading, pasteurization, and/or further processing plants from outside Control Areas (accompanied by proof of origin) without a permit. Egg handling materials must be destroyed at the plant or cleaned, sanitized (following accepted procedures) and returned to the premise of origin without contacting materials going to other premises. The driver will not be allowed outside the cab or else the cab interior must be cleaned and disinfected. The exterior of the transport vehicle and the tires and wheel wells must be cleaned and disinfected before leaving the premises within a Control Area.
- iii. Broken egg shells may move into a Control Area (accompanied by proof of origin) without a permit. The driver will not be allowed outside the cab or else the cab interior must be cleaned and disinfected. The exterior of the transport vehicle and the tires and wheel wells must be cleaned and disinfected before leaving the premises within a Control Area.
- iv. Hatching eggs may move into a hatchery from outside Control Areas (accompanied by proof of origin and AI tested negative flocks without a permit. Egg handling materials must be destroyed at the plant or cleaned, sanitized (following accepted procedures) and returned to the premise of origin without contacting materials going to other premises. The driver will not be allowed outside the cab or else the cab interior must be cleaned and disinfected. The cargo interior and exterior of the transport vehicle and the tires and wheel wells must be cleaned and disinfected before leaving the premises within a Control Area.

5. Determination of Release of Movement Restrictions

- a. All premises within the Control Area would be eligible for release from movement restrictions as determined by the Incident Command when:
 - i. All infected flocks in a Control Area have been depopulated. All depopulated flock premises have been cleaned and disinfected. A minimum of 42 days has passed, or environmental sampling has proven HPAI virus negative status for the depopulated premises.
 - ii. All contact premises in a control area must have been depopulated or must have been monitored for 42 days.

This plan has been written by egg industry and university personnel based on their knowledge of the egg industry. Standard Operating Procedures from the Exotic Newcastle Disease (END) outbreak were reviewed as a starting point for developing this plan.